

PSEUDOSTELLARIA JAMESIANA, COMB. NOV.,
A NORTH AMERICAN REPRESENTATIVE OF A EURASIAN GENUS

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Stellaria jamesiana Torrey is a common and conspicuous element in the forest flora of the Southern Rocky Mountains of Colorado and across the western United States in the mountains of Wyoming, New Mexico, western Texas, Utah, Nevada, northern Arizona and in the Cascade-Sierra ranges of Washington, Oregon and California. It has always held an anomalous position in that genus because of its shallowly notched petal with a U-shaped sinus. For this reason Shinnars (1962) transferred the taxon to *Arenaria*. His preoccupation with the petal character unfortunately may have caused him to ignore equally obvious characters which ally *S. jamesiana* not so much to *Arenaria* as to *Pseudostellaria* Pax (1934), a Eurasian genus likewise characterized by having shallowly notched petals. Furthermore, *Pseudostellaria* displays perennial rhizomes with napiform tubers scattered along them as swellings or in fascicles at the bases of the aerial stems. Because of the fragility of the attenuate stem bases most specimens of *Stellaria jamesiana* are collected without underground parts. In most species of *Pseudostellaria* the showy flowers are usually barren, the few fruits being borne on cleistogamous flowers from the lower leaf-axils. In *Stellaria jamesiana* most of the flowers are barren but a few are fertile and evidently not cleistogamous.

The chromosome numbers reported for *Pseudostellaria* are $2n=32$ for *P. europaea* (Favarger 1961) and $2n=12, 14$ for *P. palibiniana* (Lee 1969) suggesting base or secondary base numbers for the genus to be $x=6, 7$ and 8 . Many more counts are needed. Löve, Löve & Kapoor (1971) reported $2n=26$ for *S. jamesiana*. We consider this count unreliable because no voucher specimen was deposited in COLO and several others by the same student collector were misidentified. Hartman has determined the chromosome number of *S. jamesiana* recently in material from Wyoming: Carbon County, ca. 3.2 mi W of Sandstone Ranger Station, T13N R88W S12, 2500 m.s.m., July 1979, Hartman & Coffey 8957 (RM) to be $2n=ca.96$, which would suggest a base number of $x=8$ or 16 . This harmonizes with the reports for *Pseudostellaria*.

In *S. jamesiana* the rhizomes sometimes have only swellings along their length, but well-developed individuals have massive clusters of napiform tubers a centimeter or more wide and up to

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ten cm long. The few fruit-bearing flowers are almost always the first blossoming members of simple dichasia. The mature ovary contains two seeds plus one or two aborted ovules. Seed ornamentation consists of low, smooth, elongated ridges from which several short, narrow ones "flow" pectinately from their slopes to meet those of adjacent ridges.

The capsule is extraordinary because of its mode of dehiscence. The pedicel becomes deflexed from its base, turning the apex of the capsule toward the ground. Upon dehiscence the seeds fall away and the capsule valves *spread out flat and their tips roll back and under several turns*, creating the aspect of a round saucer lacking any points, the shiny insides of the valves being fully exposed. Whether this is unique to the species or may be matched in other species of *Pseudostellaria* remains to be seen.

Accordingly, we propose the following transfer:

PSEUDOSTELLARIA JAMESIANA Torrey (Weber & Hartman, *comb. nov.*, based on *Stellaria jamesiana* Torr., Ann. Lyc. N. Y. 2:269. 1827.

In proposing *Pseudostellaria*, Pax described its phytogeography as follows: "Die etwa 10 Arten umfassende Gattung stellt ein Tertiärrelikt Ostasiens dar" and listed the species as occurring in China, adjacent Japan, Korea, eastern Tibet, Transbaicalia, Himalaya, Afghanistan and Altai. The distribution of the more recently segregated European species, *P. europaea* Schaeftlein, from SE Austria, N Yugoslavia and NW Italy, is that of an outlier of an essentially Asiatic genus. A few additional species have been added from the areas mentioned by Pax. This realignment of *Stellaria jamesiana* with *Pseudostellaria* reinforces the emerging pattern of the Southern Rocky Mountain Flora as one having a strong Asiatic element probably dating back to the Tertiary, a feature which greatly impressed Sir Joseph Hooker a century ago when he visited Colorado with Asa Gray (Huxley 1918, p. 220).

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